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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,344	09/28/2001	Alex Hornig	HORN3067/EM/7238	2305
7590 Bacon & Thomas 4th Floor 625 Slaters Lane Alexandria, VA 22314			EXAMINER JONES, JUDSON	
			ART UNIT 2834	PAPER NUMBER

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/964,344

Applicant(s)

HORNG ET AL.

Examiner

Judson H. Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 5,945,765

A in view of Suzuki et al. 5,847,485 A. Chen discloses a stator of a brushless direct current motor having a coil set 34 with a central hole and two pole plates 4, 5, the pole plates having pole faces 43, 53 and conducting rings 45, 55, but does not disclose a combination member closely combined with the magnetically conducting rings. Suzuki et al. discloses a combination piece 1 (a housing) that holds the stator together. Since Suzuki et al. and Chen are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a combination piece in a brushless direct current motor for the purpose of making assembly of the device easier. In regard to the pole plates mounted in the central hole of the coil, see Suzuki et al. figures 3 and 4 which show a motor with an internal rotor having magnetic poles opposing the stator pole faces.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujitani et al. 4,891,567 A in view of Renkl et al. 4,381,465 A, Huang et al. 5,917,262 A and Drew 6,466,119 B1. Fujitani et al. discloses a stator of a brushless motor comprising a coil set 26, pole plates 22, 24 each having pole faces 28, 29 on an outer periphery of the plates and having magnetically conducting plates 30, 31 but does not disclose a combination member combining with each of

the magnetically conducting plates of each pole plate. In Fujitani et al. ring 31 fits into ring 30, with the rings being the equivalent of applicant's magnetically conducting plates. Renkl et al. teaches in column 3 lines 6-12 that standardizing pole laminations is economical. Huang et al. teaches in figure 3b that magnetically conductive plates 9a, 9b can be made identical. Since Renkl et al., Huang et al. and Fujitani et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized identical pole plates in a brushless motor in order to make the device more economical. In the Huang et al. device the two pole plates are shown as being coupled on magnet bearing 1. Drew teaches a more secure fastening arrangement comprising a combination piece 22 which has two pieces 24A and 24B pressed into the combination piece. Since the problem of combining parts together securely and economically is the same for Drew and Fujitani et al. as modified by Renkl et al. and Huang et al., it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a combination piece to couple the pole plates of Fujitani et al. as modified by Renkl et al. and Huang et al.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujitani et al. as modified by Renkl et al., Huang et al. and Drew as applied to claim 6 and further in view of Horng 4,987,331 A. Fujitani et al. as modified by Renkl et al., Huang et al. and Drew discloses the brushless motor but does not disclose multiple pole plates. Horng teaches in figure 1 and in column 2 lines 29-33 making multiple pole plates. Since Horng and Fujitani et al. as modified by Renkl et al., Huang et al. and Drew are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized multiple pole plates in a brushless motor in order to increase the area available for flux

and to decrease eddy currents, thus increasing the power of the motor. In regard to the pole faces and magnetically coupled plates being adjacent to each other, locally overlapping or overlapping each other, these are the only alternatives for multiple pole plates having pole faces and magnetically coupled plates. Therefore this limitation would be inherently met by the device of Fujitani et al. as modified by Renkl et al., Huang et al., Drew and Horng.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



JHJ 11/04/2003



BURTON S. MULLINS  
PRIMARY EXAMINER